

CLAIMS

## WHAT IS CLAIMED IS:

1. A method of migrating data items, each of said data items being associated with an identifier, said method comprising the acts of:

- 5                   storing an adjustable throttle value;
- for a first of said data items, computing a first index value based on an identifier associated with said first data item;
- determining that the relationship between said first index value and said throttle value meets predetermined criteria; and
- 10                  copying said first data item to a data store.

2. The method of claim 1, wherein said predetermined criteria comprises a determination that said first index value is less than said throttle value.

- 15                  3. The method of claim 1, further comprising the acts of:
- for a second of said data items, computing a second index value based on an identifier associated with said second data item;
- determining that the relationship between said second index value and said throttle value does not meet said predetermined criteria; and
- 20                  leaving said second data item in its current location without copying said second data item to said data store.

4. The method of claim 1, wherein each of said data items comprises customization information for a web page, each of said data items being stored on a computing device to which the customization relates, said method further comprising the acts of:

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                  providing a web page to a first one of the computing device based at least in part on information copied to said data store.

5. The method of claim 4, further comprising the acts of:

adjusting said throttle value downward;

5 determining that said the relationship between said first index value and the downward-adjusted throttle value does not meet said pre-determined criteria; and

providing a web page to one of the computing devices without using the information copied to said data store.

10 6. The method of claim 1, wherein each of said data items has a flag associated therewith, each flag being adapted to assume either a set or an unset state, and wherein said method further comprises:

determining that the flag corresponding to said first data item is in the unset state.

15 7. A computer-readable medium having computer-executable instruction to perform the method of claim 1.

20 8. A method of converting a web site from client-based storage of information to central storage of information comprising the acts of:

selecting a group of users of the web site based on an identifier associated with each user;

copying data from each of the selected user's client computing devices to a central storage location; and

25 providing a web page to each of the selected group of users based on the copied data stored in said central storage location.

9. The method of claim 8, wherein the act of selecting a group of users comprises:

computing a hash of each user's associated identifier; and  
determining, for each user, whether the hash value meets  
5 predetermined criteria.

10. The method of claim 9, wherein the act of determining whether a hash value meets predetermined criteria comprises comparing the hash value to a preset value.

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11. The method of claim 10, wherein the act of comparing the hash value to a preset value comprises determining whether the hash value is less than the preset value.

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12. The method of claim 8, further comprising the act of:

setting an indication for each user for whom data has been copied to the central storage location.

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13. The method of claim 12, further comprising the act of:

maintaining, for one of the selected users, a mirror copy of that user's centrally-stored data at the user's client computing device.

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14. The method of claim 8, further comprising the acts of:

deselecting one of the selected users;  
providing a web page to the selected user without using the copy  
of the user's data stored at the central storage location.

15. A method of deploying a new software feature to a plurality of users, said method comprising the acts of:

setting a throttle value to a first proportion;

5 selecting a first group of said plurality of users, the number of users in said first group being in about said first proportion to the number of said plurality of users;

providing said feature to said first group;

increasing said throttle value from said first proportion to a second proportion;

10 selecting a second group of said plurality of users, the number of users in said second group being in about said second proportion to the number of said plurality of users, wherein all users in said first group are included in said second group; and

providing said feature to said second group.

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16. The method of claim 15, further comprising the act of:

reducing said throttle value from said second proportion to a third proportion;

20 selecting a third group of said plurality of users, the number of users in said third group as compared with the number of said plurality of users being about equal to said third proportion, wherein all users in said third group are included in said second group; and

removing said feature from those users who are in said second group but not in said third group.

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17. The method of claim 15, wherein each of said user is associated with an identifier, wherein said throttle value is a number within the range  $m$  to  $n$ , and

wherein said first and second groups of users are selected according to a process comprising the steps of:

converting the identifiers associated with the users to a value in the range from  $m$  to  $n$ ;

- 5                    comparing the converted identifiers with the throttle value; and  
                  selecting a user based on the comparison of the converted identifiers with the throttle value.

18. The method of claim 17, wherein the act of comparing the converted  
10 identifier with the throttle value comprises determining whether the converted identifier is less than the throttle value.

19. The method of claim 17, wherein the act of converting the identifiers comprises hashing the identifiers using a hash function.

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20. The method of claim 19, wherein said range is 0 to  $n-1$ , and wherein said hash function comprises a modulo  $n$  hash function.

21. The method of claim 15, wherein said feature comprises a change in  
20 the location of specified data, and wherein the acts of providing the feature comprise copying data from one location to another location.

22. The method of claim 15, further comprising the act of:

- delaying the determination of whether a given user falls into said  
25 first or second group until a contact is initiated by the given user.

23. The method of claim 15, wherein each of said plurality of users is a user of a web site that stores customization information for each of the users and

provides a customized version of the web site to each user based on the stored customization information, wherein said feature comprises migrating the customization data for a user from a client-side file to a common data store located remotely from each user, wherein the act of providing said feature to said first group comprises:

5                    copying, from the client-side file to the common data store, the customization data for each user in the first group;

and wherein the act of providing said feature to said second group comprises:

                  copying, from the client-side file to the customization store, the customization data for each user in the second group for whom the data has not already  
10    been copied.

24. The method of claim 23, further comprising the acts of:

                  setting an indication for each user whose data has been migrated to the common data store; and

15                    maintaining, in a client-side file, a mirror copy of the customization data for each user for whom the indication has been set.

25. A computer-readable medium having computer-executable instructions to perform the method of claim 15.

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26. A system for providing a web site comprising:

                  a first computing device which provides a web page to a plurality of second computing devices, each of said second computing devices being communicatively connected to said first computing device, said first computing device  
25    providing a customized version of said web page to each of said second computing devices based on customization information associated with each of said second computing devices, each of said second computing devices storing its respective customization information;

a data store which stores corresponding customization information for at least some of said second computing devices;

a throttle module which selects certain ones of said second computing devices for storage of their respective customization information in said data store; and

a migration module which copies the customization information from the selected ones of said second computing devices to said data store.

27. The system of claim 26, further comprising:

a customization module which customizes the web page for each of the second computing devices, wherein the customization is based on information stored in the data store for the selected ones of the second computing devices, and wherein the customization is based on information stored at the respective second computing devices for the non-selected ones of the second computing devices.

28. The system of claim 26, wherein each of said second computing devices is associated with an identifier, and wherein said system further comprises:

a hashing module which hashes the identifier for each of said second computing devices,

wherein said throttle module receives a value from said hashing module and selects certain ones of said second computing devices based on the received value.

29. The system of claim 26, wherein each of said second computing devices is associated with an identifier, and wherein said system further comprises:

a throttle value storage location;  
wherein said throttle module selects certain ones of said second computing devices based on the value stored at the throttle value storage location and further based on the identifiers associated with the respective second computing devices.

30. The system of claim 26, wherein said throttle module selects said certain ones of said second computing devices in a predetermined proportion to the total number of second computing devices.

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31. A system for migrating web site data comprising:

means for storing an operator-adjustable value;

means for selecting a group of users of said web site based on an identifier associated with each of said users and further based on said operator-adjustable value;

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means for transferring data from the selected users' computing devices to a data store;

means for adjusting said operator-adjustable value downward;

means for de-selecting at least some of the selected users in response to the downward adjustment of said user-adjustable value; and

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means for rendering a web page based at least in part on data stored on the de-selected users' computing devices.

32. The system of claim 31, further comprising:

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means for indicating the validity of the data store copy of said users' data including a flag stored on each of said users' computing devices;

means for invalidating the data store data for the de-selected users using said flag.